Transportation Concept Report

Prepared for:
State Route 229

Located In:
San Luis Obispo County

CALIFORNIA DEPARTMENT OF TRANSPORTATION, DISTRICT 5
System Planning
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INTRODUCTION

SYSTEM PLANNING AND THE TRANSPORTATION CONCEPT REPORT

System planning is the California Department of Transportation (Department) long-range transportation planning process, conducted pursuant to Government Code Section 65986[a] and Department policy. The objective of system planning is to ensure that investments in the state highway system and the larger transportation system will result in a system that meets future needs for safety, mobility, and access. The method of System Planning is to identify, at the earliest stage, those capacity and operational improvements and new technologies that will optimize corridor capacity and improve regional and interregional mobility. System planning thereby lays the groundwork for informed investment decisions. The system planning process includes the production of three interrelated sets of planning documents: (1) Transportation Concept Reports (TCRs), (2) Transportation System Development Program (TSDP), and (3) District System Management Plan (DSMP).

The Transportation Concept Report is the Department's long-term planning document for an individual route corridor. The TCR: (1) evaluates current and projected conditions of the transportation corridor for a given state route; (2) establishes a twenty-year planning vision or concept; and (3) recommends long-term improvements to achieve the concept. The TCR documents strategies from long-range plans prepared by local Regional Transportation Planning Agencies (RTPAs) and Metropolitan Planning Organizations (MPOs). The TCR also identifies major alternatives for accommodating demand within the state highway corridor. State highway corridors sometimes pass through several regional planning agency jurisdictions. When this is the case, the District-level TCR consolidates numerous regional strategies into a single comprehensive, internally consistent, corridor-specific document.

The improvements identified in a TCR are not necessarily tied to a funding source, nor does the document project future funding scenarios. Collectively the TCRs provide the basis for developing the DSMP and the State Transportation Improvement Program (STIP) which do address funding availability and are project specific.

STATE ROUTE 229

This Transportation Concept Report presents an opportunity for the Department to develop a concept for this rural facility in consultation with its regional partners.

Route 229 in San Luis Obispo County is 9.2 miles in length. It is a 2-Lane conventional rural highway for its entire length.

Route 229 begins at the junction of Route 58 northwest of the town of Santa Margarita and continues north winding through mountainous terrain. Route 229 terminates at the junction of Route 41 near the town of Creston.

ORGANIZATION OF REPORT

This Transportation Concept Report is comprised of three major parts. **Part One** provides a broad overview of the functions, current development and designations of Route 229. Part One also reviews the process system planners have followed in developing an appropriate Transportation Concept for the facility.

Part Two presents the detailed analysis of Route 229 in District 5. For this county analysis, the following information is included: area description and trends; present and future operating conditions of the highway; alternatives to highway travel; and local factors including physical constraints, local values and environmental resources. The county analysis concludes by identifying an appropriate 20-year transportation concept.

Part Three addresses future considerations, i.e., realization of the 2020 Transportation Concept for Route 229 through future planning and programming. Planned improvements related to capacity, safety, operations and maintenance are identified. Finally, the ultimate Route 229 transportation corridor, looking beyond the 20-year planning period, is discussed briefly.

Two **Appendices** present background information and/or additional detail. Appendix A presents definitions of terms used in the TCR, including selected federal and state designations and classifications accorded Route 229 and the legislative backgrounds and purposes of the designations. Appendix B is the segment fact sheet, which identifies levels of service, deficiencies, recommended actions, and other segment features.

PART ONE: BACKGROUND FOR TRANSPORTATION CONCEPT DEVELOPMENT

ROUTE/CORRIDOR PURPOSE AND CHARACTERISTICS

The primary purpose of Route 229 is to serve local traffic. Numerous ranches can be accessed using the Route 229 corridor. Emergency, mail and school vehicles access the route.

ROUTE DESIGNATIONS AND CLASSIFICATIONS

The following designations and classifications provide information regarding the facility itself and its intended use. They also indicate the availability of special purpose funding related to the designation.

The Federal functional classification of Route 229 is Conventional Rural Highway.

Route 229 is designated a Federal Aid Secondary Route.

Route 229 is not a SHELL (State Highway Extra Legal Load) Route.

Route 229 is not an interregional route as defined in the Department Interregional Road System (IRRS).

ROUTE SEGMENTATION

For purposes of analysis, Route 229 in District 5 encompasses only one segment.

The segment is defined by post-mile measures and by commonly identifiable jurisdictional boundaries or landmarks on the County Segment Data Sheet that is included in the county level analyses in Part Two.

PRESENT AND FUTURE OPERATING CONDITIONS

The TCR uses traffic forecasts based on local and regional land use designations to project travel demand over a 20-year period. The traffic forecasts are used to determine the resulting level of service (LOS) and to estimate the measures required in order to maintain acceptable levels of service on the state facility. If land use patterns and development and modal splits remain constant, the capital improvements required to mitigate congestion may come in the near future. The converse could happen, as well.

PART TWO: SUB-CORRIDOR ANALYSIS AND DETAIL

CORRIDOR AND INTERREGIONAL CONCERNS

Route 229 is entirely within San Luis Obispo County.

SAN LUIS OBISPO COUNTY

AREA DESCRIPTION AND TRENDS

Route 229 lies within the North County San Luis Obispo Planning Area. The area includes everything within San Luis Obispo County north and east of the Santa Lucia range, large areas of agricultural and open space land, Lake Nacimiento Resort and the cities of Atascadero and Paso Robles. The area also includes the smaller unincorporated communities of Templeton, Shandon, Cholame, Creston, San Miguel, Garden Farms, Whitley Gardens, Oak Shores and Heritage Ranch.

North County San Luis Obispo acts as a gateway to many tourist and recreational attractions on the Central Coast. Most tourists use State Routes 41 and 46, 1 and U.S. Route 101 to access tourist destinations.

OPERATING CONDITIONS AND SEGMENT SUMMARY

Route 229 in San Luis Obispo County consists of one segment extending from the junction with Route 58 at PM 0.0 to Route 41 at PM 9.2.

Linkages.
State Routes 41 and 58 connect with 229 (south to north) in San Luis Obispo County

LOCAL FACTORS

Environmental Resources and Issues

The purpose of this section is to provide a broad overview of environmental resources and issues to be considered in planning for appropriate transportation facilities along the Route 229 corridor in San Luis Obispo County.

Scenic and Aesthetic Resources
The Route 229 corridor offers spectacular views of rolling hills, mountains and ranch lands. There are numerous ranches and vineyards located in this region of San Luis Obispo County.

Cultural Resources
Potential project-related impacts to archaeological, cultural and historical resources must be evaluated in compliance with the California Environmental Quality Act (CEQA). Environmental compliance could require further investigation of cultural sites, as well as redesign of the

project or mitigation of impacts. Archeological and historical sites are found along the Route 229 corridor.

Biological Resources
Potential project related impacts to biological resources must be evaluated in accordance with CEQA as well. Potential biological impacts associated with Route 229 include the San Joaquin kit fox, blunt-nosed leopard lizard and spade-foot toad.

Air Quality
The County of San Luis Obispo air quality exceeds the state standard for both ozone and air-borne particulate matter. San Luis Obispo County has prepared an air quality attainment plan as required under the California Clean Air Act (CAA). Transportation plans, programs and projects must conform to the attainment plan. San Luis Obispo County does meet Federal air quality conformity standards. North County air quality is continually worse than South County San Luis Obispo with monitoring stations in Paso Robles and Atascadero picking up most exceedances of ozone levels.

TRANSPORTATION CONCEPT AND STRATEGIES

TRANSPORTATION CONCEPT

The transportation concept for Route 229 in San Luis Obispo County will remain 2-lane conventional highway for its entire length for the foreseeable future. The acceptable LOS for this segment will be B.

PART THREE: FUTURE CONSIDRATIONS

PROGRAMMING CONCEPT FACILITIES

Although not site specific, this TCR supports the implementation of Transportation System Management (TSM) and Transportation Demand Management (TDM) tools. Working together with the Department, the San Luis Obispo Council of Governments (SLOCOG) and local jurisdictions should include TSM/TDM provisions in their planning process to assure consistency with the Department System Planning effort.

ULTIMATE TRANSPORTATION CORRIDOR

The ultimate transportation corridor (UTC) is viewed as the maximum development of a state highway corridor, including parallel facilities, beyond the 20-year planning horizon. The UTC is used to identify potential widenings, realignments, future facilities and rights-of-way required to complete the development of each corridor. This information is critical for working with local and regional land use planning agencies to address right-of-way preservation and dedication techniques. Ultimately, Route 229 will likely remain a two-lane conventional highway.

CONCLUSION

In preparing this report, the Department has used traffic forecasts to determine the future Levels of Service on Route 229. Based on these forecasts and a qualitative analysis of alternatives, the concept has been identified along with attendant measures required for maintaining acceptable levels of service. The land use patterns and development adjacent to the state facility have a substantial impact on the LOS. Many alternative transportation modes and the types of land use are in hands of the local agencies and are therefore up to them to implement and monitor. The Department will continue to work with the local agencies in planning and programming transportation projects to meet demand for safe and efficient travel through the Route 229 corridor. Additionally, in the interest of preserving the safety and operational integrity of the State Highway, the Department's Intergovernmental Review (IGR)/ California Environmental Quality Act (CEQA) program will continue to work with local agencies to identify and evaluate transportation issues at an early stage of planning for new development.

Bibliography

Caltrans, District 5 Traffic Branch, Post Mile Book; March 1998.

Caltrans, Interregional Transportation Strategic Plan; June 1998.

Caltrans, Traffic Trends to the Year 2017; March 1998

San Luis Obispo Council of Governments, Regional Transportation Plan (Administrative Draft); 2000.

San Luis Obispo Council of Governments, Regional Transportation Plan; 1994.

DEFINITION OF TERMS *(TEXT)*

Arterial	A general term denoting a highway primarily for through traffic usually on a continuous route.
Collector	Surface street providing land access and traffic circulation within residential, commercial, and industrial areas.
Expressway	An arterial highway with at least partial control of access, which may or may not be divided or have grade separations at intersections.
Freeway	A divided arterial highway with full control of access and with grade separations at intersections.
Functional Classifications	A grouping of streets and highways sorted as to the character of service they are intended to provide.
Level of Service (LOS)	Term used to describe the quality of operation of a highway facility. It is a qualitative measure of the effect of such factors as, speed and travel time, traffic interruptions, freedom to maneuver, driving comfort, convenience, safety and operation cost. In this report, LOS is based on peak traffic hours. On urban street systems, the quality of flow is most frequently controlled by traffic conditions at signalized intersections. The flow characteristics are defined in six levels of service.
LOS A	Describes a condition of free flow, with low volumes and high speeds. Traffic density is low, with speeds controlled by driver desires, speed limits, and physical roadway conditions.
LOS B	Is in the zone of stable flow, with operating speeds beginning to be restricted somewhat by traffic conditions. Drivers still have reasonable freedom to select their speed and lane of operation.
LOS C	Is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed change lanes, or pass.
LOS D	This level approaches unstable flow, with tolerable operating speeds being maintained though considerably affected by changes in operating conditions. Fluctuations in volumes and temporary restrictions to flow may cause substantial drops in operating speeds.
LOS E	This level cannot be described by speed alone, but represents operations at even lower operating speeds than in level D, with volumes at or near the capacity of the highway. Flow is unstable, and there may be stoppages for brief periods of time.

LOS F	Describes forced flow operation at low speeds, where volumes are below capacity. These conditions usually result from vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time because of the downstream congestion. In the extreme, both speed and volume can drop to zero.
Rural	An area of under 5000 population
Rural Local	Serve primarily to provide access to adjacent land; and provide service to travel over relatively short distances as compared to collectors or other highway systems.
Rural Major Collector	◊ Provide service to any county seat not on an arterial route, to the larger towns not directly served by the higher systems, and to other traffic generators of equivalent intra-county importance, nearby larger towns or cities, or with routes of higher classification. ◊ Serve the more important intra-county travel corridors.
Rural Minor Arterial	1. Link cities and larger towns with major traffic generators that are capable of attracting travel over similarly long distances and form an integrated network providing interstate and inter-county service. 2. Be spaced at such intervals, consistent with population density, so that all developed areas of the state are within a reasonable distance of an arterial highway. 3. Provide service to corridors with trip lengths and travel density greater than those predominantly served by rural collector or local systems. These routes should be expected to provide for relatively high overall travel speeds, with minimum interference to through movement.
Rural Minor Collector	1. Are spaced at intervals, consistent with population density, to collect traffic from local roads and bring all developed areas within a reasonable distance of a collector road. 2. Provide service to the remaining smaller communities. 3. Link the locally important traffic generators with their rural hinterland.
Rural Other Principal Arterial	All non-Interstate Principal Arterials. 1. Serve corridor movements having trip length and travel density characteristics indicative of substantial statewide or interstate travel. 2. Serve all urban areas of 50,000 and over population and a large majority of those with population of 25,000 and over. 3. Provide an integrated network without stub connections except where unusual geographic or traffic flow conditions dictate otherwise.

Rural Principal Arterial – Interstate	The Interstate system consists of all presently designated routes of the Interstate System.
Urban	An area of 5000 to 50,000 population.
Urban Collector	The collector street system provides both land access service and traffic circulation within residential neighborhoods, commercial and industrial areas. It differs from the arterial system in that facilities on the collector system may penetrate residential neighborhoods, distributing trips from the arterials through the area to the ultimate destination. Conversely, the collector street also collects traffic from local streets in residential neighborhoods and channels it into the arterial system. In the central business district, and in other areas of like development and traffic density, the collector system may include the street grid, which forms a logical entity for traffic circulation.
Urban Local	Comprise all facilities not on one of the higher systems. It serves primarily to provide direct access to abutting land and access to the higher order systems. It offers the lowest level of mobility and usually contains no bus routes. Service to through traffic movement usually is deliberately discouraged.
Urban Minor Arterial	Interconnects with and augments the urban principal arterial system and provides service to trips of moderate length at a somewhat lower level of travel mobility than principal arterials. This system also distributes travel to geographic areas smaller than those identified with the higher system. The minor arterial street system includes all arterials not classified as a principal and contains facilities that place more emphasis on land access than the higher system, and offers a lower level of traffic mobility. Such facilities may carry local bus routes and provide intra-community continuity, but ideally should not penetrate identifiable neighborhoods. This system should include urban connections to rural collector roads where such connections have not been classified as urban principal arterials.
Urban Other Principal Arterial	This system consists of all non-Interstate principal arterials.
Urban Principal Arterial – Interstate	The interstate system consists of all non-Interstate principal arterials.
Urban Principal Arterial – Other Fwys/Expwys	Connecting links of non-Interstate rural principal arterials. Connecting links of rural minor arterials.

	Definition of Terms *(Data Sheet)*
Description:	Provides start and finish streets, routes or other description of the identified segment.

Functional Classification:	1992 Functional Classification Maps developed by DOT in cooperation with U.S. DOT, FHA and counties.
National Highway System:	Included are all Interstate routes, a large percentage of urban and rural principal arterials, the defense strategic highway network, and strategic highway connectors.
Interregional Route System:	A series of interregional state highway routes, outside the urbanized areas, that provides access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions.
Type of Facility:	C = Conventional, E = Expressway, F = Freeway, X = Unconstructed State Highway.
Type of Terrain:	Terrain describes the adjacent topography as to its effect on construction cost. M = Mountainous, F = Flat, R = Rolling.
Number of Lanes:	The total number of lanes moving in both directions.
Lane Width, Shoulder Width, R/W Width, Median Width:	The width in feet of all Lanes, Shoulders, the R/W and the Median.
ADT (present):	*Average Daily Traffic* – The average 24 hour volume, being the total number during a stated period divided by the # of days in that period.
Growth Factor:	The 20-year Growth Rate expressed as a percentage of current AADT.
ADT (Future 2020):	ADT based on highway improvements for twenty years in the future.
Peak Hour Volume:	The number of vehicles passing a given point during a specified period of time at Peak Hour.
Directional Split:	Directional distribution of traffic.
Hours Delay:	The time lost while traffic is impeded by some element over which the driver has no control.
Peak Hour % Trucks:	The percentage of truck traffic at peak hour.
Signalized Intersections:	An intersection that includes a power operated traffic control device by which traffic is regulated, warned, or alternately directed to take specific actions.
3-Year Accident Rate:	The latest 3-year accident rate. Rate includes the number of fatal, injury, and property damage only for a segment.
Statewide Accident Rate:	Statewide Average accident rate for the same type of facility in comparable terrain.
FAT:	Fatalities

F & I:	Fatal and injury accidents per mile per year averaged for the 1994, 1995, and 1996 calendar years.
V/C Ratio:	Ratio of highway volume to capacity.
LOS:	Level of Service is a measure of the speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort, convenience, and operating cost.
Proposed Route Concept (2020):	Most likely facility on the route given future financial, environmental, planning and engineering factors.
Projected Peak LOS:	The peak LOS that is projected after the proposed future route concept is given.

STATE ROUTE 229 - SEGMENT 1
SAN LUIS OBISPO COUNTY

SEGMENT SPECIFICATIONS

Segment	Begin	End	Description
1	0.00	9.16	East of Atascadero from Junction w/ State Route 58 to Junction w/ State Route 41

LEVEL OF SERVICE

Present LOS	A
20-Year LOS without Improvements	B
20-Year Concept with Improvements	B or better

SEGMENT FEATURES

Environmental Constraints:	▪ Prime Agricultural Land ▪ Cultural Resources ▪ Air Quality ▪ Threatened and Endangered Species and Habitat
Land Uses along Corridor:	▪ Agricultural and open space land ▪ Rural residential
Major Traffic Generators:	▪ Access to ranches along 229 corridor ▪ Commuter traffic to and from Creston and Santa Margarita

IDENTIFIED DEFICIENCIES – EXISTING AND FUTURE

- Non-Standard lane and shoulder widths and horizontal alignment
- Segment 1 is presently operating at LOS A and is projected to slip to B by the year 2020

RECOMMENDED ACTIONS

- Upgrade lanes and shoulders to standard width as funding allows
- Upgrade horizontal alignment